Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding the Economic and Innovation	)	GN Docket No. 12-268
Opportunities of Spectrum Through	)	
Incentive Auctions	)	

REPLY COMMENTS OF MOBILE FUTURE

Jonathan Spalter, Chairman
Allison Remsen, Executive Director
Rachael Bender, Policy Director
MOBILE FUTURE
1325 Pennsylvania Avenue, N.W.
Suite 600
Washington, D.C. 20004
www.mobilefuture.org

March 12, 2013

SUMMARY

The Federal Communications Commission ("Commission"), the White House, Congress, and the overwhelming majority of parties filing comments in this proceeding agree that more spectrum is needed to meet consumer demand for mobile broadband services. Recent data show astounding growth in the number of mobile connections and the amount of mobile data traffic as mobile broadband increasingly becomes part of the fabric of work, education, entertainment, commerce, health care, and beyond. The United States has been in the forefront of this mobile revolution, and forecasting reports project continuing U.S. leadership.

Commenters agree that the upcoming incentive auction is the single biggest opportunity to identify additional spectrum to continue U.S. leadership in the mobile broadband revolution. As the White House's Council of Economic Advisors concluded last year *"[w]ith access to sufficient spectrum*, wireless broadband has the potential to transform many different areas of the American economy, as new wireless technologies give new capabilities to consumers, businesses, and the public sector." The Commission should strive to attain and exceed the National Broadband Plan's goal of repurposing 120 MHz of television broadcast spectrum for mobile broadband services.

The record in this proceeding demonstrates there are several actions that the Commission should take to design a market-oriented, simple and transparent auction, thereby providing certainty to all potential participants and affected parties in the auction process:

1) The forward auction should auction "generic" 5 MHz spectrum blocks, paired wherever possible, licensed on an Economic Area geographic basis, and assigned in contiguous frequencies when a winning bidder acquires more than one license in the same geographic area.

2) The Commission should embrace the broadest possible participation in the forward auction as a necessary component to the success of the incentive auction program. Imposing an arbitrary and inflexible cap on 600 MHz band spectrum could undermine speedy deployment of the spectrum and put the entire incentive auction at risk by depressing auction participation and lowering auction revenues.

3) The alternative band plan principles supported by the broadcast, wireless and equipment industries, represents a collaborative effort to best organize wireless and television operations in the revised 600 MHz band and the repacked TV band. Guard bands should only be as large as necessary to prevent interference and any uses within those guard bands must provide appropriate protections to mobile broadband operations.

4) The Commission should take steps now to advance the repacking process and provide certainty to affected parties by moving swiftly on international coordination efforts, finalizing how it will implement the repacking process, and setting a deadline by which the 600 MHz band must be cleared of incumbents. The Commission should also allow Channel 51 broadcasters to relocate now to foster mobile broadband deployment on the Lower 700 MHz A Block, without adversely affecting their rights to participate in the reverse auction.

These measures will help make the incentive auction a success and ensure that additional spectrum resources are made available for already strained networks. This, in turn, will further strengthen the mobile innovation ecosystem, promote economic productivity and job creation, and continue the country's position as a global innovation and economic leader in the mobile broadband revolution.

TABLE OF CONTENTS

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding the Economic and Innovation	)	GN Docket No. 12-268
Opportunities of Spectrum Through	)	
Incentive Auctions	)	

REPLY COMMENTS OF MOBILE FUTURE

Mobile Future submits these Reply Comments in the above-captioned proceeding seeking to develop an incentive auction framework to repurpose broadcast television ("TV") spectrum and allocate it for wireless use ("*Incentive Auction NPRM*").[1]

I. A SUCCESSFUL INCENTIVE AUCTION IS CRITICAL TO FINDING SUFFICIENT SPECTRUM TO MEET CONSUMERS' GROWING APPETITE FOR MOBILE BROADBAND.

As mobile broadband service permeates all facets of life, be it work, education, entertainment, commerce, health care, or beyond, mobile broadband networks will need significant amounts of additional spectrum to provide consumers with the communications capabilities that are critical to their daily lives.[2] The record reflects the widely held view that a

---

[1] *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357 (2012) ("*Incentive Auction NPRM*" or *"Notice*").

[2] *See, e.g.*, Cisco Comments at 1-2; CTIA Comments at 11; Consumer Electronics Association Comments at 6-7; Google/Microsoft Comments at 1; Information Technology Industry Council Comments at 3-4; Expanding Opportunities for Broadcasters Coalition Comments at 12; Competitive Carriers Association Comments at 1-2.

successful incentive auction is critical to meeting this objective.[3] Indeed, the upcoming incentive auction should meet or even exceed the National Broadband Plan's goal of making 120 MHz of additional spectrum available for wireless broadband services.[4]

Recent forecasting reports show continued, astounding growth in mobile connections, in bandwidth-intensive devices, and in mobile data traffic. The United States has been in the forefront of this mobile revolution, and these reports project continuing U.S. leadership:

- There are now more wireless subscriptions than people, and it is estimated that there will be two billion networked devices in the United States by 2015 – six for every man, woman and child.[5]

- North America will have the fastest growth in mobile devices and connections with 13 percent compound annual growth rate from 2012 to 2017 – and will lead the world in transitioning from basic-feature phones to more bandwidth-intensive devices. A single smartphone can generate as much traffic as 50 basic-feature phones; a tablet as much traffic as 120 basic-feature phones, and a single laptop as much as 368 basic-feature phones.[6]

- North America today accounts for more than half of all 4G connections, and even with 4G deployment evolving into a global phenomenon, the North American market will still account for nearly a third of all 4G connections in 2017.[7]

---

[3] *See, e.g.*, Expanding Opportunities for Broadcasters Comments at 1-2; AT&T Comments at 2-3; CTIA Comments at 1-2; Cisco Comments at 1-2; Competitive Carriers Association Comments at 1-3; Google/Microsoft Comments at 2; High Tech Spectrum Coalition Comments at 2-4; Incentive Auction Advocates Comments at 1; Leadership Conference on Civil and Human Rights, et al. Comments at 2; Leap/Cricket Comments at 1-2; MetroPCS Comments at 1-2; Nokia Comments at 3-4; Qualcomm Comments at 1; Research In Motion Comments at 5; Sprint Nextel Comments at 1; T-Mobile Comments at 1-3; U.S. Cellular Comments at 1-2; Verizon Comments at 3-4.

[4] *See* Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 88 (Mar. 16, 2010).

[5] *See* Mobile Future, 2011 Mobile Year in Review, at 3 (Dec. 2011) ("Mobile Future Report").

[6] *See* Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012-2017, at 7-8 (Feb. 6, 2013) ("Cisco Forecast Report"), *available at* http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf.

[7] *Id.* at Appendix B.

- A 4G connection today generates 19 times more traffic than a non-4G connection (and 50 percent more traffic than the same model smartphone on a 3G or 3.5G network). By 2017, a 4G connection will still generate 8 times more traffic than a non-4G connection.[8]

- Overall, global mobile traffic will grow at a compounded annual rate of 66 percent for the next five years (almost 20 percent of which will be accounted for in North America), doubling 13 times by 2017.[9]

So what does this mean for U.S. spectrum policy? Mobile broadband providers must have access to sufficient spectrum to offer the capacity to carry this projected traffic. Last year, the White House's Council of Economic Advisors concluded *"[w]ith access to sufficient spectrum*, wireless broadband has the potential to transform many different areas of the American economy, as new wireless technologies give new capabilities to consumers, businesses, and the public sector."[10] As Chairman Genachowski has observed, we are in a "global bandwidth race," and "success in this race will unleash waves of innovation that will go a long way toward determining who leads our global economy in the 21st century."[11] Analysis shows that sustained availability of spectrum has a tremendous impact on economic productivity and job creation.[12] As the Council of Economic Advisors concluded, "the evidence is clear that

---

[8] *Id.* at 16; *see also* Mobile Future Report at 8.

[9] Cisco Forecast Report at 5; *see also* Mobile Future Report at 6-7 (noting that by 2015, U.S. mobile networks will be expected to handle 56 times the data traffic they experienced in 2009, and other growth trends).

[10] *See* Executive Office of the President, Council of Economic Advisors, "The Economic Benefits of New Spectrum for Wireless Broadband," (Feb. 2012), *available at* http://www.whitehouse.gov/sites/default/files/cea_spectrum_report_2-21-2012.pdf (emphasis added) ("Council of Economic Advisors Report").

[11] Prepared Remarks of FCC Chairman Julius Genachowski, University of Pennsylvania – Wharton, "Winning the Global Bandwidth Race: Opportunities and Challenges for Mobile Broadband," at 2 (Oct. 4, 2012).

[12] *See* Council of Economic Advisors Report at 14-16; *see also* Mobile Future Report at 3 (noting that the wireless sector supports 2.4 million American jobs, and estimating that building out an additional 500 MHz of spectrum would create 500,000 U.S. jobs and $400 billion to U.S. GDP).

the wireless industry is an important source of investment and employment in the U.S. economy, and that supporting the growth of this industry through new spectrum allocation is likely to generate substantial economic benefits."[13] Chairman Genachowski similarly recently noted that "[f]ew sectors have more job-creating innovation potential than broadband, particularly mobile broadband."[14]

The upcoming incentive auction is the single biggest opportunity to identify additional spectrum to continue U.S. leadership in the mobile broadband revolution. As Commissioner Rosenworcel remarked, it is important that the Commission ensure that the auction is done quickly and on a clear timeline.[15]

II. THE COMMISSION SHOULD PURSUE FORWARD AUCTION DESIGN AND LICENSING RULES THAT WILL GET SPECTRUM INTO THE HANDS OF PROVIDERS WHO WILL PUT IT TO USE FOR CONSUMERS.

There is wide agreement among industry segments that the Commission should adopt a simple, transparent approach to auction design that provides sufficient certainty to all potential participants and affected parties in the auction process.[16] It is important to create a market-oriented framework to transition the 600 MHz band to mobile broadband use and encourage broad participation in the auction.

---

[13] Council of Economic Advisors Report at 16.

[14] FCC Chairman Julius Genachowski, *The Broadband Engine of Economic Growth*, Wall Street Journal (Mar. 5, 2013).

[15] *See* Statement of Commissioner Jessica Rosenworcel Before the Subcommittee on Communications and Technology Committee on Energy and Commerce, United States House of Representatives, "Keeping the New Broadband Spectrum Law on Track" (Dec. 12, 2012).

[16] *See, e.g.*, Mobile Future Comments at 6-8; CTIA Comments at 13; New York State Broadcasters Association Comments at 20; ABC/CBS/FBC/NBC Affiliates Comments at 3; Consumer Electronics Association Comments at 14-15.

A. The Commission Should Adopt Key Elements of Its Auction Design and Licensing Proposals.

The record strongly supports the fundamental building blocks of the Commission's forward auction design and licensing proposals. Specifically, the Commission should auction "generic" 5 MHz spectrum blocks, paired wherever possible, licensed on an Economic Area ("EA") geographic basis, and assigned in contiguous frequencies when a winning bidder acquires more than one license in the same geographic area. At the same time, it should avoid needless regulation that will only hamstring the auction or limit the promise of the 600 MHz band.

The 5 MHz generic licensing approach aligns well with a variety of wireless broadband technologies (*e.g.*, LTE, W-CDMA, HSPA)[17] and would, as the *Notice* observes, "optimize efficiency in the rebanded spectrum."[18] The record also supports pairing these blocks in 5x5 MHz licenses wherever possible given mobile broadband providers' overwhelming interest in Frequency Duplex Division ("FDD") technologies; unpaired downlink spectrum blocks should be offered only when no pairing option is available.[19] Where a winning bidder acquires more than one license in the same market, the Commission should assign those licenses grouped together.[20] As the Commission is well aware, mobile broadband technologies increasingly rely

---

[17] *See, e.g.*, CTIA Comments at 19-20; Consumer Electronics Association Comments at 18-19; Motorola Comments at 13; Research In Motion Comments at 6; T-Mobile Comments at 14-15.

[18] *Incentive Auctions NPRM*, 27 FCC Rcd at 12403-04, ¶ 128.

[19] *See, e.g.*, Cellular South Comments at 6-7; Consumer Electronics Association Comments at 20; CTIA Comments at 22-23; MetroPCS Comments at 20; Research In Motion Comments at 6-7; Verizon Comments at 17.

[20] *See, e.g.*, Competitive Carriers Association Comments at 12; Motorola Comments at 13; Research In Motion Comments at 6-7; AT&T Comments at 60-61; Qualcomm Comments at 21-22; Verizon Comments at 45-47.

on wider band channelization that fosters greater spectral efficiency, and a policy in favor of contiguity will enhance the promise of the 600 MHz band and provide bidders with greater certainty that they can deploy their preferred technologies. Like others, Mobile Future also supports assigning the spectrum on an EA-licensed basis.[21] As the Commission acknowledged, "EA licensing strikes an appropriate balance between geographic granularity from a spectrum reclamation standpoint and having a manageable number of licenses from an auction design standpoint."[22]

The Commission should also enable package bidding, which provides greater certainty to bidders whose business plans call for acquiring a certain group of licenses. As the Commission has explained elsewhere, package bidding will promote auction efficiencies and will generate revenues.[23]

Finally, the Commission need not impose an interoperability mandate in the 600 MHz band, provided it adopts a well-designed band plan. In particular, the technical issues that have hampered interoperability in the 700 MHz band should not be present here, because guard bands will ensure that mobile operations are not directly adjacent to high-powered operations, and provided that operations that are allowed in the guard bands operate, by rule, so as to not interfere with licensed mobile operations.[24]

---

[21] *See, e.g.*, Cellular South Comments at 7-8; MetroPCS Comments at 18-19; Verizon Comments at 60-63; AT&T Comments at 54; Leap/Cricket Comments at 4.

[22] *Incentive Auction NPRM*, 27 FCC Rcd at 12411, ¶ 148.

[23] *See High-Cost Universal Service Support*, Notice of Proposed Rulemaking, 23 FCC Rcd 1495, 1510, ¶ 42 (2008); *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289, 15397, ¶¶ 290-92 (2007).

[24] *See, e.g.*, Mobile Future Comments at 14-16; Research In Motion Comments at 10-13; Consumer Electronics Association at 21; Information Technology Industry Council at 8.

B. The Commission Should Allow Open Eligibility and Reject Calls to Impose Band-Specific Limits on 600 MHz Spectrum Holdings.

The Commission should embrace the broadest possible participation in the forward auction as a necessary component to the success of the incentive auction program.[25] An open eligibility standard is consistent with the mandates of the Spectrum Act and allows companies that value the spectrum most highly to fully participate in the auction.[26] In contrast, imposing an arbitrary and inflexible cap on 600 MHz band spectrum could undermine speedy deployment of the spectrum and put the entire incentive auction at risk by depressing auction participation and lowering auction revenues. The Commission instead should apply its general spectrum competition policies to 600 MHz auction winning bidders, consistent with the outcome of the pending *Mobile Spectrum Holdings* proceeding.[27]

III. THE ALTERNATIVE BAND PLAN SET FORTH BY WIRELESS OPERATORS, BROADCASTERS, AND TECHNOLOGY COMPANIES MAKES IMPORTANT IMPROVEMENTS OVER THE NOTICE'S PROPOSAL.

The record shows broad support for the alternative band plan principles set forth in the January 24, 2013 letter from representatives of the broadcast, wireless and equipment

---

[25] *See, e.g.*, Mobile Future Comments at 10-11; Consumer Electronics Association Comments at 13-14; Expanding Opportunities for Broadcasters Coalition Comments at 4; Declaration of Jeffrey A. Eisenach, attached to Expanding Opportunities for Broadcasters Coalition Comments, at 13-14; Information Technology Industry Council Comments at 7; Verizon Comments at 38-43.

[26] *See Implementation of Competitive Bidding Rules To License Certain Rural Service Areas*, Report and Order, 17 FCC Rcd 1960, 1966, ¶ 10 (2002) ("[T]he Commission has generally favored open eligibility because we believe that maximizing the pool of auction applicants helps to ensure that licenses are awarded to entities that value them most highly and are, therefore, most likely to offer prompt service to the public.").

[27] *Policies Regarding Mobile Spectrum Holdings*, Notice of Proposed Rulemaking, 27 FCC Rcd 11710 (2012) ("*Mobile Spectrum Holdings NPRM*").

industries.[28] Under this alternative proposal, the 600 MHz band plan would adopt a contiguous "down from TV Channel 51" approach and maximize the amount of paired spectrum above TV Channel 37, and no broadcast TV stations would be located in the duplex gap. By maximizing the spectrum above Channel 37, the duplex gap could be reduced in size while still ensuring that it protects against interference. The letter represents a key multi-stakeholder, collaborative effort to determine how to organize wireless and TV operations in the revised 600 MHz and repacked TV bands to best meet the needs of consumers, and should be closely reviewed by the Commission.

Under the alternative proposal, the Commission should ensure that guard bands between broadcasters and commercial wireless licensees are only as large as necessary to prevent interference.[29] This will facilitate clearing as much 600 MHz spectrum as possible for the forward auction, thereby maximizing the amount of licensed spectrum available for mobile broadband services and raising auction revenues. Further, as Cisco suggested, the Commission should not presume that operations in the guard bands necessarily follow the unlicensed TV white space approach but instead should consider multiple options for the guard band framework – including the unlicensed PCS model, the 700 MHz guard band manager approach, the BRS/EBS guard band licenses, as well as the TV white spaces approach.[30] Any uses within

---

[28] Letter from Joan Marsh, AT&T, Rick Kaplan, National Association of Broadcasters, Kathleen Ham, T-Mobile, Peter Pitsch, Intel Corporation, Dean Brenner, Qualcomm, and Charla Rath, Verizon Wireless, to Gary Epstein and Ruth Milkman, FCC, GN Docket No. 12-268 (Jan. 24, 2013).

[29] *See, e.g.*, Mobile Future Comments at 16; Alcatel-Lucent Comments at 20-24; Cisco Comments at 11; MetroPCS Comments at 24-25; Telecommunications Industry Association Comments at 9.

[30] *See* Cisco Comments at 16-27.

those guard bands – be it unlicensed or licensed or wireless microphone operations – must provide appropriate interference protections to mobile broadband operations.

IV. THE COMMISSION SHOULD TAKE STEPS NOW TO ADVANCE A REPACKING PROCESS THAT WILL OPTIMIZE MOBILE BROADBAND.

A. The Commission Must Move Swiftly on International Coordination Efforts.

Mobile Future commends the Commission for already taking steps to begin international coordination efforts with the Canadian and Mexican governments regarding broadcast operations in the border areas following repacking, and wireless operations in the repurposed 600 MHz band. The faster these issues are resolved, the more certainty wireless operators and broadcasters will have regarding the incentive auction and repacking process. At the same time, the Commission should reject the arguments of the National Association of Broadcasters ("NAB") that coordination with Canada and Mexico must be concluded prior to conducting the incentive auction.[31] The Spectrum Act provides the Commission with the flexibility to conduct such coordination in parallel with, or after, the auction.[32] The Commission should, in any event, maintain the 2014 timeline for the auction to occur.[33]

B. The Commission Should Provide Clarity with Regard to Repacking, and Should Set a Deadline for Broadcasters to Vacate the 600 MHz Band.

Mobile Future agrees that broadcasters need to understand how the Commission will administer repacking as they consider options for participating in the incentive auction. To that end, the Commission has sought comment on its new "TVStudy" software, which analyzes

---

[31] *See* NAB Comments at 11-17.

[32] Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. No. 112-96, § 6403(b), 126 Stat. 156 (2012) ("Spectrum Act") (authorizing the Commission, "subject to international coordination along the border with Mexico and Canada" to reorganize the broadcast TV spectrum in conjunction with the incentive auction).

[33] *See Incentive Auction NPRM*, 27 FCC Rcd at 12362, ¶ 10.

coverage and interference of full-service and Class A TV stations.[34] To provide greater certainty, the Commission should act quickly to finalize the approach it will use consistent with the obligation to take "all reasonable efforts" to preserve the coverage area and population served of broadcasters in the repacking process.[35] But the Commission should disregard claims that it must retain broadcast stations' same coverage and population, except in "exceptional" circumstances.[36] The Commission should acknowledge its broad authority to modify Title III broadcast licenses and recognize that it is not required to fully replicate broadcasters' coverage area and population served as of February 2012. Consistent with the Spectrum Act, the Commission can administer a repacking plan in which there is some loss of coverage and population served, and not only in "extraordinary" circumstances.

Commenters widely agree that it is critical for wireless operators to know when spectrum acquired at auction will become available so they can expand or enhance the mobile services being provided to consumers.[37] Accordingly, the Commission should set deadlines for vacating the spectrum and take steps to facilitate prompt and efficient relocation from the band.

C. By Allowing Channel 51 Broadcasters to Relocate Now, the Commission Can Foster Mobile Broadband Deployment on the Lower 700 MHz A Block.

Several commenters urge the Commission to allow broadcasters operating on Channel 51 to relocate to different spectrum in advance of the incentive auction, without adversely affecting

---

[34] *See Office of Engineering and Technology Releases and Seeks Comment on Updated OET-69 Software*, Public Notice, ET Docket No. 13-26, GN Docket No. 12-268, DA 13-138 (rel. Feb. 4, 2013).

[35] Spectrum Act, § 6403(b)(2).

[36] NAB Comments at 18-21.

[37] *See, e.g.*, Mobile Future Comments at 20; AT&T Comments at 78-79; Consumer Electronics Association Comments at 34-35; Leap/Cricket Comments at 10; Sprint Nextel Comments at 12-13; Telecommunications Industry Association Comments at 17-18; U.S. Cellular Comments at 57; Verizon Comments at 67-68.

their rights to participate in the reverse auction.[38] Prompt relocation of broadcasters from Channel 51 – where they currently operate in 34 markets across the United States, most in major markets[39] – would help address interference issues that have hindered adjacent band Lower 700 MHz A Block licensees from deploying mobile broadband. The Commission should enable existing broadcasters on Channel 51 to relocate on a fast track basis. The Commission should also clarify that broadcasters who relocate from Channel 51 prior to the auction would not lose their rights to participate in the incentive auction.

V. THE REVERSE AUCTION DESIGN SHOULD ENCOURAGE WIDE PARTICIPATION BY BROADCASTERS.

Commenters overwhelmingly recognize that repurposing sufficient spectrum to meet the ever growing consumer demand for mobile broadband services is dependent on wide participation by broadcasters in the reverse auction.[40] Indeed, as the Expanding Opportunities for Broadcasters Coalition remarked, the Commission should design the reverse auction to encourage sufficient broadcast sellers in the top 15 to 20 markets to meet or exceed nationwide the National Broadband Plan's 120 MHz target.[41] The Commission should carefully consider whether the various proposals set forth in the record will promote such participation. Allowing broadcasters to participate by moving from a high VHF channel to a low VHF channel, or by accepting additional interference (assuming it does not overly complicate the incentive auction),

---

[38] *See, e.g.*, CTIA Comments at 28-30; Competitive Carriers Association Comments at 14; MetroPCS Comments at 28-30; U.S. Cellular Corporation Comments at 59-61; Verizon Comments at 37-38.

[39] *See* Letter from Joseph P. Marx, AT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 12-69 (Mar. 26, 2012).

[40] *See, e.g.*, Verizon Comments at 20; U.S. Cellular Comments at 6; T-Mobile Comments at 36; Qualcomm Comments at 24-25; CTIA Comments at 30-31; Competitive Carriers Association at 19.

[41] Expanding Opportunities for Broadcasters Coalition Comments at 3.

could free up additional spectrum for the forward auction. Similarly, the Commission should reiterate clearly that current broadcast ownership arrangements are grandfathered in any new post-repacking broadcast market.

VI. CONCLUSION

A successful incentive auction will help achieve the nation's mobile broadband goals and maintain its global leadership role in mobile innovation. The Commission should design the auction to encourage maximum participation and ensure that the repurposed spectrum is made available as quickly as possible to meet growing consumer demand, the needs of our innovation economy, and the future of American technology leadership.

Respectfully submitted,

By: /s/ Jonathan Spalter

Jonathan Spalter, Chairman
Allison Remsen, Executive Director
Rachael Bender, Policy Director
MOBILE FUTURE
1325 Pennsylvania Avenue, N.W.
Suite 600
Washington, D.C. 20004
www.mobilefuture.org

March 12, 2013